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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,538	04/23/2001	Robert T. Love	CE08613R	3907
22917	7590	11/02/2004	EXAMINER	
MOTOROLA, INC. 1303 EAST ALGONQUIN ROAD IL01/3RD SCHAUMBURG, IL 60196			EWART, JAMES D	
			ART UNIT	PAPER NUMBER
			2683	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/840,538

Applicant(s)

LOVE ET AL.

Examiner

James D Ewart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on September 08, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 14-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments with respect to claims 1 and 5 have been considered but are moot in view of the new ground(s) of rejection.
2. Regarding claim 8, Examiner accidentally included the fading metric as a limitation taught by Tiedemann, Jr. et al.. Examiner has used the Mandyam to show a teaching of considering a fading metric for purposes of data transmission. Examiner perceives to improve communication quality as good reason to combine has modified the motivation to combine Tiedemann, Jr. et al.. and Mandyam but has modified the motivation to "to provide significant improvements for data communications upon a communication channel susceptible to fading".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,2 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Love et al. (US Patent Publication No. 2001/004877).

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Referring to claim 1, Love et al teaches a method for scheduling a plurality of mobile units for data transmission (0021-0022), the method comprising the steps of: determining a plurality of mobile units that require data transmission (0022); determine power control feedback information for each mobile unit within the plurality of mobile units that require data transmission (0022); and scheduling the plurality of mobile units for data transmission based on their power control feedback information (0022 & 0025), wherein scheduling comprises prioritizing at least one mobile unit of the plurality of mobile units over at least one other mobile unit of the plurality of mobile units for data transmission (0025).

Referring to claim 2, Love et al further teaches the step of determining C/I information for each mobile unit within the plurality of mobile units and scheduling the plurality of mobile units additionally based on C/I (0025).

Regarding claim 14, Love et al further teaches generating a metric for each of the plurality of mobile units (0022); selecting, based on the metric, a mobile unit; and transmitting a packet to the mobile unit selected (0021 & 0025).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al and further in view of Widegren et al (U.S. Patent No. 6,374,112).

Referring to claim 3, Le Strat et al teaches the limitations of claim 3, but does not teach wherein scheduling the plurality of mobile units for data transmission over a common channel shared by the plurality of mobile units. Widegren et al teaches scheduling the plurality of mobile units for data transmission over a common channel shared by the plurality of mobile units (Column 3, Lines 58-59). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Love et al with the teaching of Widegren et al of scheduling the plurality of mobile units for data transmission over a common channel shared by the plurality of mobile units to provide flexible and efficient allocation of resources (Column 2, Lines 51-52).

5. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al and further in view of Le Strat et al. (U.S. Patent No. 6,134,220).

Referring to claim 4, Love et al teaches the limitations of claim 4, but does not determine feedback information of a common channel. Le Strat et al teaches determining feedback information of a common channel (Column 6, Lines 15-17). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to

combine the art of Love et al with the teaching of Le Strat et al of determining feedback information of a common channel to analyze the transmission quality of a channel (Column 6, Lines 34-35).

Referring to claim 5, Love et al teaches an apparatus for scheduling mobile units for data transmission (0022), the apparatus comprising: a scheduler having the power-control statistic as an input and outputting scheduled mobile units based on the power control statistic (0022 & 0025), wherein the scheduled mobile units comprises at least one mobile unit of the plurality of mobile units being prioritized over at least one other mobile unit of the plurality of mobile units for data transmission (0025), but does not teach a channel statistic estimator, wherein the channel statistic estimator has power control information for a plurality of mobile units as an input and outputs a power-control statistic based on the power control information. Le Strat et al teaches a channel statistic estimator (Column 15, Lines 1-35), wherein the channel statistic estimator has power control information for a plurality of mobile units as an input (Column 7, Lines 6-11) and outputs a power-control statistic based on the power control information (Column 7, Lines 4-5). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Love et al with the teaching of Le strat et al of a channel statistic estimator, wherein the channel statistic estimator has power control information for a plurality of mobile units as an input and outputs a power-control statistic based on the power control information to analyze the transmission quality of a channel (Column 6, Lines 34-35).

Referring to claim 6, Le Strat et al further teaches wherein the channel statistic estimator additionally has C/I feedback information for the plurality of mobile units as an input and outputs a statistic based on both power control and C/I information for each mobile unit (Column 15, Lines 1-35).

Referring to claim 7, Le Strat et al further teaches wherein the C/I information is C/I feedback information for a common channel shared by the plurality of mobile units (Column 10, Lines 38-49 and Column 14, Lines 60-62). GSM uses TDMA wherein data transmission is achieved over a common channel shared by a plurality of mobile units.

6. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann, Jr. et al. (US Patent No. 6,335,922) and further in view of Mandyam (U.S. Patent Publication No. 2001/0029189).

Referring to claim 8, Tiedemann, Jr. et al. teaches a method for scheduling a plurality of mobile units for data transmission (Column 4, Lines 39-41), the method comprising the steps of: determining a plurality of mobile units (Column 6, Lines 28-33) that require data transmission (Column 4, Lines 39-41); determining transmission priority factors for each of the plurality of mobile units that require data transmission (Column 36, Lines 28-33); determining a priority metric based on a time a packet is queued for each of the plurality of mobile units that require data transmission (Column 38, Lines 1-15); selecting, based on the priority metric, a mobile unit from the plurality of mobile units that require data transmission

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(Column 36, Lines 23-25); and transmitting a packet to the mobile unit selected (Column 6, Lines 28-33), but does teach considering a fading metric for purposes of data transmission. Mandyam teaches considering a fading metric for purposes of data transmission (0017 and 0020). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Tiedemann, Jr. et al. with the teaching of Mandyam of considering a fading metric for purposes of data transmission to provide significant improvements for data communications upon a communication channel susceptible to fading (0015).

Regarding claim 10, Mandyam further teaches wherein the fading metric is based on an accumulation of power control commands (0020).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann, Jr. et al. and Mandyam and further in view of Tiedemann, Jr. et al. (U.S. Patent No. 6,396,867).

Regarding claim 9, Tiedemann, Jr. et al. and Mandyam teach the limitations of claim 9, but do not teach wherein the fading metric is based on a voltage gain setting of a forward dedicated channel. Tiedemann, Jr. et al. (U.S. Patent No. 6,396,867) teaches wherein the fading metric is based on a voltage gain setting of a forward dedicated channel (Column 4, Lines 41-54). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Tiedemann, Jr. et al. and Mandyam with the teaching of Tiedemann, Jr. et al. (U.S. Patent No. 6,396,867) wherein the fading metric

is based on a voltage gain setting of a forward dedicated channel to improve the response time of the forward link power control (Column 4, Lines 43-49).

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tiedemann, Jr. et al. and Mandyam and further in view of Olofsson et al. (U.S. Patent No. 6,167,031).

Regarding claim 11, Tiedemann, Jr. et al. and Mandyam teach the limitations of claim 11, but do not teach wherein the fading metric is based on measured C/I feedback. Olofsson et al. teaches wherein the fading metric is based on measured C/I feedback (Column 4, Lines 17-23). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Tiedemann, Jr. et al. and Mandyam with the teaching of Olofsson et al. wherein the fading metric is based on measured C/I feedback to improve the response time of the forward link power control (Column 4, Lines 55-57).

9. Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al and further in view of Tiedemann, Jr. et al. (US Patent No. 6,335,922).

Regarding claim 15, Love et al teaches the limitations of claim 15, but does not teach wherein the metric includes a priority metric based on a time a packet is queued. Tiedemann, Jr. et al. teaches wherein the metric includes a priority metric based on a time a packet is queued (Column 38, Lines 1-15). Therefore, at the time the invention was made, it would

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have been obvious to a person of ordinary skill in the art to combine the art of Le Strat et al with the teaching of Tiedemann, Jr. et al. wherein the metric includes a priority metric based on a time a packet is queued to provide a more efficient use of the forward link (Column 4, Lines 12-17).

10. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al and further in view of Tiedemann, Jr. et al. (US Patent No. 6,396,867).

Regarding claim 16, Love et al teaches the limitations of claim 16, but does not teach wherein the power control feedback is based on a voltage gain setting of a forward dedicated channel. Tiedemann, Jr. et al. teaches wherein the power control feedback is based on a voltage gain setting of a forward dedicated channel (Column 4, Lines 41-54). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Love et al with the teaching of Tiedemann, Jr. et al. wherein the power control feedback is based on a voltage gain setting of a forward dedicated channel to improve the response time of the forward link power control (Column 4, Lines 43-49).

11. Claim 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al and further in view of Mandyam.

Regarding claim 17, Love et al teaches the limitations of claim 17, but does not teach wherein the power control feedback information comprises an accumulation of power control

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commands. Mandyam teaches wherein the power control feedback information comprises an accumulation of power control commands (0020). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Love et al. with the teaching of Mandyam wherein the power control feedback information comprises an accumulation of power control commands to provide improved communication quality (0014).

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al and Le Strat et al and further in view of Tiedemann, Jr. et al. (US Patent No. 6,396,867).

Regarding claim 16, Love et al and Le Strat et al teach the limitations of claim 16, but do not teach wherein the power control statistic is based on a voltage gain setting of a forward dedicated channel. Tiedemann, Jr. et al. teaches wherein the power control feedback is based on a voltage gain setting of a forward dedicated channel (Column 4, Lines 41-54). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Love et al and Le Strat et al with the teaching of Tiedemann, Jr. et al. wherein the power control feedback is based on a voltage gain setting of a forward dedicated channel to improve the response time of the forward link power control (Column 4, Lines 43-49).

13. Claim 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love et al and Le Strat et al and further in view of Mandyam.

Regarding claim 19, Love et al and Le Strat et al teach the limitations of claim 19, but do not teach wherein the power control feedback information comprises an accumulation of power control commands. Mandyam teaches wherein the power control feedback information comprises an accumulation of power control commands (0020). Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Love et al. and Le Strat et al with the teaching of Mandyam wherein the power control feedback information comprises an accumulation of power control commands to provide improved communication quality (0014).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Arnold et al. U.S. Patent No. 6,748,233 discloses system and method for energy-efficient transmission power control, routing and transmission scheduling in wireless communication networks.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D Ewart whose telephone number is (703) 305-4826. The examiner can normally be reached on M-F 7am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703)308-5318. The fax phone numbers for the organization


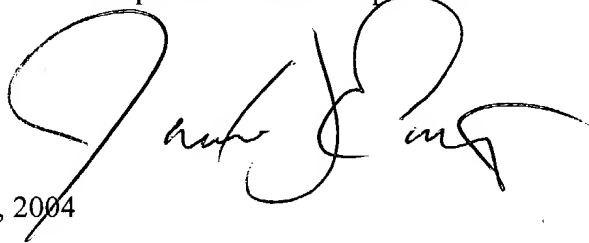
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where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Ewart
October 25, 2004



WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600